Wind Turbines

**Why Wind?**
Clean wind energy has the potential to supply up to 20% of the world’s electricity. That may explain why wind energy is one of the world’s fastest-growing renewable sources of electricity.

**Benefits of Wind Power**
Farms, schools & colleges, local municipalities, car dealerships, resorts, remote sites and retail businesses can harness the power of wind to:

- Lower Overhead Costs
- Stabilize Energy Costs
- Gain Energy Independence
- Promote a “Green” Business
- Claim Tax Advantages
- Encourage Educational Opportunities
- Meet Renewable Energy Portfolio Standards (RPS)

**Why Us?**
- 30+ Years of Experience with Renewable Energy Systems
- Range of Wind Turbine Options Available (400W-250kW)
- System Component Options (Batteries, Control Systems, etc.)
- Hybrid Options Available (w/Solar, Fuel Cells, TEGs, Generators, etc.)
- Engineering Services Available
Southwest Windpower Turbines
RedHawk Energy Systems, LLC offers small (400W-1kW) Southwest Windpower Turbines for critical remote site, backup and hybrid power applications. These systems are versatile, efficient and durable sources of wind power.

Applications
Southwest Windpower Turbines are ideal for hybrid battery-charging applications and are often utilized in environments where traditional electrical service is unavailable or too costly and windy conditions are prevalent.

Turbine Specs

**Air 30**
- Rated Power: 400 Watts @ 28mph
- Voltage: 12, 24 and 48 VDC

**Whisper 100**
- Rated Power: 900 Watts @ 28mph
- Voltage: 12, 24, 36 and 48 VDC

**Whisper 200**
- Rated Power: 1000 Watts @ 26mph
- Voltage: 24, 36, and 48 VDC

**Railroad Wayside Power Application**
Solar & Wind Hybrid System w/Wind Generator Pole Adaptor
Northel Energy designs and manufactures high-quality small and medium-sized (7.5kW-250kW) Wind Turbines for remote site, utility grid-tie and backup power applications. RedHawk Energy Systems, LLC partners with Northel Energy to provide sales and service support throughout the United States for their innovative and highly customizable Wind Turbine product line.

**Markets / Applications**

- Farms & Greenhouses
- Colleges & Universities
- Elementary, Middle & High Schools
- Research & Technical Centers
- Community Wind
- Municipal Offices & Facilities
- WTP/WWTP
- Retail Businesses
- Light Manufacturing
- Car Dealerships
- Grocery Stores
- Non-Profits
- Railroad Wayside Power
- Hybrid w/Solar, Fuel Cells, Generators, etc.
The Northel Energy Advantage

Wind energy is intermittent in nature, sometimes it’s windy, sometimes it’s not. How do you know if you’re getting the most out of your Wind Turbine? Northel Energy’s unique approach allows for complete Wind Turbine customization based on the wind resource characteristics of your application. What this means is that high efficiency and fixed power is obtained even on less than windy days.

Features & Benefits

- Highly Customizable / Configurable
- Low Maintenance
- High Efficiency Designs
- Long-Life = 20+ Years
- High Reliability
- 9 Models Available (7.5kW - 250kW)
- 2 Tower Options Available
- System Component Options (Batteries, Control Systems)
- Hybrid Options Available (w/Solar, Fuel Cells, TEGs, Generators, etc.)

Is My Site a Viable Wind Site?

Not all sites are created equal. We can determine if your wind resource is capable of supporting a Wind Turbine by performing a site survey. Our site survey consists of physically measuring and analyzing data to determine if your site is a viable wind site. A completed site survey will report the findings and recommend proposed solutions. To learn more or schedule a site survey, give us a call at 740-964-4000.

Models:

- VIRA 7.5kW
- VIRA 10kW
- VIRA 20kW
- VIRA 30kW
- VIRA 50kW
- VIRA 75kW
- VIRA 100kW
- VIRA 150kW
- VIRA 250kW

ph: 740-964-4000  www.redhawkennergy.net  info@redhawkennergy.net
## System Components

### Wind Generator Stop Switch
The wind generator stop switch assembly is designed to give the user full control over small (400W-1kW) wind generator operation. The stop switch is economically packaged in a 8”x 8” x 4” NEMA 4X fiberglass enclosure pre-fitted with mounting feet for quick and easy installation. The stop switch is outfitted with a three-position toggle (run, off, stall) that controls the systems modes of operation.

### Batteries
RedHawk Energy Systems, LLC can provide reliable nickel cadmium and lead acid batteries as energy storage systems for wind generators. As a key critical component, we can provide valued assistance to our customers in proper battery selection.

Saft Sunica.plus Ni-Cd Batteries are specifically designed for Renewable Energy Systems (RES).

### Battery Boxes
RedHawk Energy Systems, LLC offers both all-welded aluminum and steel constructed battery boxes. These battery boxes feature fully insulated paneling and are designed to shield and protect batteries located in harsh outdoor environments.

To learn more about our system component offerings give us a call at 740-964-4000.
Hybrid Options

Wind & Solar Hybrids
We offer solar power systems to complement our wind turbines. These hybrid systems are typically implemented in applications where system operability is critical and varying weather conditions are experienced.

**Solar Power Systems**
Size Range: 100W-200kW

Wind & Fuel Cell Hybrids
We offer both portable and stationary fuel cells to complement wind turbines. These hybrid systems are ideal for applications that experience varying weather conditions and/or peak load conditions and want to increase overall system availability with the fuel cell as a backup power source.

- **IdaTech ElectraGen™ ME Fuel Cells** (2.5kW, 5kW)
- **INI Power Systems Fuel Cells** (75W, 300W)

Wind & Thermoelectric Generator (TEG) Hybrids
We offer thermoelectric generators (TEG) to complement wind turbines. These hybrid systems combine the economics of wind turbines with the reliability of a thermoelectric generator (TEG).

- **Global Thermoelectric TEGs** (21W-550W)
  *Systems can be combined up to 5kW*
Our History
RedHawk Energy Systems, LLC was officially formed in 2004 as a manufacturing and value-added subsidiary of the Arthur N. Ulrich Company. Since the early 1980’s, the Arthur N. Ulrich Company has designed and deployed renewable energy systems ranging from a few watts to several kilowatts for hundreds of applications throughout North America.

- Solar Power Systems
- Wind Turbines
- Fuel Cells
- Thermoelectric Generators
- Hybrids
- Battery Systems
- Battery Testers
- Battery Boxes
- Battery Enclosures
- Lightning Protection
- Engineering Services